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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,080	11/22/1999	JOUNG-KYOU PARK	678-335-(P85	3345

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EXAMINER

NGUYEN, FRANCIS N

ART UNIT PAPER NUMBER

2674

DATE MAILED: 11/19/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/447,080

Applicant(s)

PARK ET AL.

Examiner

FRANCIS NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. The amendment filed on 2/10/2003 is entered.

Claim Objections

2. Claim 10 is objected to because of the following informalities: incorrect number "5" page 3, Amendment D, claim 10, line 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zetts (US Patent 5,404,458) in view of Reference " DSP-based handprinted character recognition" (Texas Instrument application report, October 1994 by Alan Josephson, referred from hereon as Josephson).

As to **claim 3**, Zetts discloses a character recognition device for recognizing a character input through a touch screen (**touch work pad with touch overlay 16 disposed on LCD 18** shown in figure 1, column 4, lines 23-43) comprising:

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a touch screen data recorder for storing touch screen data generated from input of a stroke (**stroke buffer** , column 6, lines 60-62, **RAM 32** on touch panel adapter card 37 shown in figure 2B), wherein said character is recognized in response to said stroke or in response to a plurality of strokes (**step 128** shown in figure 4) ;

a timer for counting a predetermined waiting threshold time when there is no touch screen data generated (**delay timer**, column 7, lines 55-58, step 126 shown in figure 4);

a character recognition processor for performing character recognition of the stored touch screen data (**character recognition unit** , column 7, lines 65-67) .

However, Zetts fails to expressly teach character recognition at each time when each stroke is input through said touch screen, wherein all the touch screen data are recognized as a single character when said predetermined waiting threshold time is completely counted. Josephson teaches performing character recognition of the stored touch screen data at each time when each stroke is input (**as the operator writes on digitized pad, strokes are digitized, normalized, compared to all strokes in the active stroke data base**, page 4, lines 2-6, sequence of strokes parsed in to set of potential matches, page 4, lines 7-8). Note that Josephson teaches a **matrix touch screen** (page 3, line 2) a **resistive X-Y digitizing pad** (page 2, last two lines), which is analogous to a touch screen. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus taught by Zetts then **modify character recognition software** (**application programs 82**, column 6, lines 13-14) by accounting each stroke input for normalization, digitization before comparison routines as taught by Josephson, to obtain the apparatus Zetts modified by Josephson, because it would increase character recognition speed as taught by Josephson(page 4, lines 17-18),

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and enhance resolution of character recognition

Note that Zetts modified by Josephson does teach multi-tasking (Zetts, column 10, lines 5-6, Josephson, page 3,lines 17-18); this corresponds to the claimed character recognition and the counting of the threshold time occur simultaneously.

As to **claim 4**, note the same citation for claim 3. The character recognition device wherein said touch screen recorder and character recognition processor are designed to have multitasking functions (Zetts, **application in a multi-tasking computer system**, column 10, lines 5-6, **not wasting processing time to switch between a currently executed thread to timer thread**, column 10, lines 19-22, also see Josephson, **DSP incrementally process the strokes as they arrive from host by performing partial recognition results**, page 4, lines 25-28, **real time operating system with facilities for multitasking**, page 3, lines 17-18) thereby performing the corresponding function when a touch screen data is generated and stored.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference “ DSP-based handprinted character recognition” (Texas Instrument application report, October 1994 by Alan Josephson, referred from hereon as Josephson in view of Zetts et al. (US Patent 5,864, 635).

As to claim 7, Josephson teaches a character recognition device for recognizing characters input through a touch screen (**resistive X-Y digitizing pad**, page 2, last two lines, see also **matrix touch screen**, page 3, line 2) , comprising:

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a touch screen data recorder for storing touch screen data generated from an input of a character (stroke data input, workspace shown in figure 2) ;

a character recognition processor for performing character recognition of said stored touch screen as a character (TMS320C5X digital signal processor, page 1, line 10)

However, Josephson fails to teach a timer for counting waiting threshold time when there is no touch screen, freshly stored touch screen data is added to the previous touch screen data to complete. Zetts et al. teaches a timer (writing timer, column 9, lines 48-58, writing timeout is adjusted, column 10, lines 52-54, set and monitor writing timeout, step 1550 shown in figure 15) also teaches a current stroke being added to previous stroke (as shown in step 1540 in figure 15, column 10, lines 52-54) . Since Josephson teaches operator-trainable stroke-based approach (page 3, last two lines) , it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Josephson then add a timer for counting, add current stroke to previously collected strokes as taught by Zetts et al. to obtain the apparatus Josephson modified by Zetts et al. because it would improve recognition accuracy , as taught by Zetts et al. (column 2, lines 47-50), make user interface more responsive(column 10, lines 20-23) and improve speed of character recognition **as taught by Josephson(page 4, lines 17-18), and enhance resolution of character recognition.**

As to claim 8, Josephson modified by Zetts et al. teaches said character recognition processor outputting a character code (score after completion of each stroke, column 5, lines 26-27) corresponding to a result of said character recognition (recognition result to compatibility module , column 5, lines 45-46) when a further touch screen data is not recognized within said predetermined waiting threshold time .

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As to claim 9, Josephson teaches a character recognition method for recognizing characters (handprinted character recognition, page 1, lines 2-3) input through a touch screen (matrix touch screen, page 3, line 2), comprising the steps of:

storing touch screen data generated from an input of a character (stroke data input, workspace shown in figure 2) ;

performing character recognition of said stored touch screen data as character (DSP performs character-based matching, page 1, lines 12-18); and

However, Josephson fails to teach, in case that another touch screen is generated within a predetermined waiting threshold time, stopping the above operation and adding both the previously generated touch screen data and the newly generated touch screen data together as one character. Zetts et al. teaches a timer (writing timer, column 9, lines 48-58, writing timeout is adjusted, column 10, lines 52-54, set and monitor writing timeout, step 1550 shown in figure 15), also teaches a current stroke being added to previous character recognition and waius strokes (as shown in step 1540 in figure 15, column 10, lines 52-54).

Since Josephson teaches operator-trainable stroke-based approach (page 3, last two lines), it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the character recognition method of Josephson then add method step of using a timer add method step that adds current stroke to previously collected strokes as taught by Zetts et al. to obtain the method Josephson modified by Zetts et al. because it would improve recognition accuracy, as taught by Zetts et al. (column 2, lines 47-50), make user interface

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more responsive(column 10, lines 20-23), improve speed of character recognition **as taught by Josephson(page 4, lines 17-18), and enhance resolution of character recognition.**

As to claim 10, Josephson modified by Zetts et al. teaches outputting a character code (score after completion of each stroke, column 5, lines 26-27) corresponding to a result of said character recognition (recognition result to compatibility module , column 5, lines 45-46) when a further touch screen data is not recognized within said predetermined waiting threshold time .

Response to Arguments

4. Applicant's arguments filed on 2/10/2003 as to claims 7-10 have been considered but are moot in view of the new ground(s) of rejection.

As to claims 3-4, Applicant's argument as to cited art failing to teach character recognition and the waiting threshold time occur simultaneously is not valid because Zetts does teach a multi-tasking computer system (column 10, lines 5-6), therefore simultaneous tasks are known in said multi-tasking system. Therefore, claims 3-4 remain rejected.

CONCLUSION

5. The prior art made of record but not relied upon is pertinent to Applicant's disclosure:

US Patent	Tanaka et al.	6,611,258
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US Patent	Sidoroff et al.	6,292,857
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Reference Tanaka et al. is made of record as it discloses an information processing apparatus and method using a digitizer and a touch panel.

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Reference Sidoroff et al. is made of record as it discloses a method and mechanism for handling user input, using a timer and a handwriting recognition engine.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANCIS N NGUYEN** whose telephone number is **703 308-8858**. The examiner can normally be reached during hours 8:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached at 703 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service whose telephone number is (703) 306-0377.



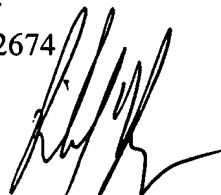
FN

November 10th, 2003

FRANCIS N NGUYEN

Examiner

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RICHARD HJERPE

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600